

TRANSLATOR'S VERIFICATION

I hereby declare and state that I am knowledgeable of each of the Japanese and English languages and that I made and reviewed the attached translation of the attached Patent Application Serial No. 2001-228852 filed on July 30, 2001, from the Japanese language into the English language, and that I believe my attached translation to be accurate, true and correct to the best of my knowledge and ability.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issued thereon.

Date: March 9, 2004

A handwritten signature in black ink, appearing to read "Mie Hosoi". The signature is fluid and cursive, with the first name "Mie" and last name "Hosoi" clearly distinguishable.

(Signature)

Mie Hosoi

(Typed Name)

**This is a translation of the Certified Copy
for Japanese Patent Application No. 2001-228852.**

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This is to certify that the annexed is a true copy of the following application as filed with this office.

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[Title of Document] Specification 1

[Title of Document] Drawing 1

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[Title of the Document] Specification

[TITLE OF INVENTION] Printer with Photo Stand and Photo Stand Detachably Attachable to Printer

[Claims for the Patent]

[Claim 1] A printer with a photo stand that prints indicia on a recording medium, wherein a plurality of engagement portions are formed in an outer surface of the printer, and a photo stand is detachably attached to the engagement portions and can hold a photograph.

[Claim 2] The printer with the photo stand according to claim 1, wherein the plurality of engagement portions are formed in asymmetric positions at the outer surface of the printer, and wherein the photo stand is detachably attached to the engagement portions, and includes:

a frame in which a middle portion is open;

a plurality of engaging protrusions that are provided on a rear surface of the frame and engage the respective engagement portions formed in the printer;

a transparent panel that covers a surface of the photograph so that the photograph can be seen therethrough;

a rear panel that holds the photograph from the rear side of the frame in cooperation with the transparent film so that the photograph is sandwiched therebetween; and

a photograph holding portion that is integrally formed to a base portion of each engagement protrusion and urges the photograph by contacting the rear panel.

[Claim 3] The printer with the photo stand according to claim 2, wherein the rear panel includes a cutaway portion that is formed by cutting away from one side so as to be opened with a substantially U-shape.

[Claim 4] The printer with the photo stand according to any one of claims 1 through 3, wherein the frame is provided with a bottom portion that extends in a

direction smaller than a right angle by a predetermined angle with respect to the frame, and the printer is inclined at the predetermined angle with respect to a direction perpendicular to an installed plane of the printer when the printer is attached with the photo stand having the bottom portion.

[Claim 5] The printer with the photo stand according to any one of claims 1 through 4, wherein the surface of the printer to which the photo stand is to be attached is provided with protrusions at its upper and lower portions.

[Claim 6] The printer with the photo stand according to claim 4, wherein a bottom of the printer is provided with a protrusion that prevents the printer inclined at the predetermined angle from falling in a direction of the installed plane.

[Claim 7] A photo stand detachably attachable to a printer via a plurality of engagement portions formed in an outer surface of the printer, comprising:

- a frame in which a middle portion is open;

- a plurality of engaging protrusions that are provided on a rear surface of the frame and engage the respective engagement portions formed in the printer;

- a transparent panel that covers a surface of the photograph that the photograph can be seen therethrough;

- a rear panel that holds the photograph from the rear side of the frame in cooperation with the transparent film so that the photograph is sandwiched therebetween; and

- a photograph holding portion that is integrally formed to a base portion of each engagement protrusion and urges the photograph by contacting the rear panel.

[Claim 8] The printer with the photo stand according to claim 7, wherein the rear panel includes a cutaway portion that is formed by cutting away from one side so as to be opened with a substantially U-shape.

[Claim 9] The printer with the photo stand according to claim 1 or 2, wherein the frame is provided with a bottom portion that extends in a direction smaller than a

right angle by a predetermined angle with respect to the frame, and the printer is inclined at the predetermined angle with respect to a direction perpendicular to an installed plane of the printer when the printer is attached with the photo stand having the bottom portion.

[Detailed Description of the Invention]

[0001]

[Field of the Invention]

The invention relates to a printer, and more particularly, to a printer to which a photo stand is detachably attached and a photo stand detachably attachable to the printer.

[0002]

[Prior Art]

Conventionally, small and compact printers that have a tape wound therein and print indicia, such as characters and symbols, on the tape, have been used in offices, schools and the like. Labels on which characters and symbols are printed by the printer are adhered to office automation equipment, stationery and the like. The printers are small in size, so that the printers are used on desks in the offices and schools in most cases.

[0003]

[Problems to be Solved by the Invention]

However, in the offices and schools, there are many cases where people display photographs of their families and friends on their desks. Accordingly, if the printer is placed on the desk, desktop work space becomes more confined or a place for locating a keyboard, a mouse, documents or stationery is more limited.

[0004]

The invention is made to solve the above problem. It is an object of the invention to provide a printer with a photo stand in which a photograph can be displayed and that requires less space and a photo stand detachably attachable to the printer.

[0005]

[Means for Solving the Problems]

In order to achieve the above object, a printer with a photo stand, according to claim 1, that prints indicia on a recording medium includes an outer surface, a plurality of engagement portions formed on the outer surface, and a photo stand that is detachably attached to the engagement portions and can hold a photograph therein.

[0006]

In the printer with the photo stand as structured above, the photo stand is detachably attached to the printer. When both the printer and the photo stand are to be placed on a desk, it is unnecessary to place the printer and the photo stand separately. Accordingly, the desk space can be saved and effectively used.

[0007]

In the printer with the photo stand according to claim 2, in addition to the structure of the printer with the photo stand according to claim 1, the outer surfaces of the tape printer are formed with the engagement portions at asymmetric positions. The photo stand is attached to the tape printer via the engagement portions. The photo stand includes the frame in which the middle portion is open, the engaging protrusions that are provided on the rear surface of the frame and engage the respective engagement portions formed in the tape printer, the transparent panel that covers the surface of the photograph so that the photograph can be seen therethrough, the rear panel that holds the photograph with the transparent panel from the rear side of the frame in cooperation with the transparent panel so that the photograph is sandwiched therebetween, and the photo holding portion that is integrally formed to the base portion of each engagement protrusion and urges the photograph by contacting the rear panel.

[0008]

In the printer with the photo stand structured as described above, in addition to effects of the invention claimed in claim 1, the engagement portions are formed, at asymmetric positions, in the outer surfaces of the tape printer. The engaging protrusions formed to the rear side of the frame of the photo stand are engaged with the respective engagement portions. Accordingly, the photo stand is attached to the predetermined surface while oriented in a predetermined direction. Consequently, the

photo stand can be prevented from being attached to an improper surface of the tape printer and from being attached to the tape printer in an improper orientation.

[0009]

In the printer with the photo stand according to claim 3, in addition to the structure of the printer with the photo stand claimed in claim 2, the rear panel has the cutaway portion that is formed by cutting away from one side so as to be opened with a substantially U-shape.

[0010]

In the printer with the photo stand structured as described above, in addition to effects of the invention claimed in claim 2, the rear panel is formed with the cutaway portion from the one side. The rear panel holds the photograph with the transparent panel that covers the surface of the photograph so that the photograph can be seen through the transparent panel. Accordingly, the photograph can be easily removed from the photo stand by inserting a finger into the cutaway portion.

[0011]

In the printer with the photo stand according to claim 4, in addition to the structure of the printer with the photo stand claimed in any one of claims 1 to 3, the frame is provided with the bottom portion that extends in a direction smaller than a right angle by a predetermined angle with respect to the frame. The tape printer is inclined at the predetermined angle with respect to a direction perpendicular to the installed plane of the tape printer when the tape printer is attached with the photo stand having the bottom portion. Accordingly, the photograph, or the like, inserted in the photo stand is held in a posture that it can be easily seen.

[0012]

In the printer with the photo stand structured as described above, in addition to effects of the invention claimed in any one of claims 1 to 3, the frame is provided with the bottom portion that extends in a direction smaller than a right angle by a predetermined angle with respect to the frame. The tape printer is inclined at the predetermined angle with respect to a direction perpendicular to the installed plane of the tape printer when the tape printer is attached with the photo stand having the bottom

portion. Accordingly, the photograph, or the like, inserted in the photo stand is held in a posture that it can be easily seen.

[0013]

In the printer with the photo stand according to claim 5, in addition to the structure of the printer with the photo stand claimed in any one of claims 1 to 4, the surface to which the photo stand is to be attached is provided with the protrusions at its upper and lower positions.

[0014]

In the printer with the photo stand structured as described above, in addition to effects of the invention claimed in any one of claims 1 to 4, the surface to which the photo stand is to be attached is provided with the protrusions at its upper and lower positions. With this structure, the photograph held in the photo stand can be prevented from being vertically displaced.

[0015]

In the printer with the photo stand according to claim 6, in addition to the structure of the printer with the photo stand claimed in claim 4, the bottom portion of the printer is provided with the protrusion that prevents the tape printer inclined at the predetermined angle from falling in a direction of the installed plane.

[0016]

In the printer with the photo stand structured as described above, in addition to effects of the invention claimed in claim 4, the bottom portion of the printer is provided with the protrusion that prevents the tape printer inclined at the predetermined angle from falling in a direction of the installed plane. Therefore, the tape printer inclined at the predetermined angle can be prevented from falling.

[0017]

The photo stand according to claim 7, which is detachably attachable to the printer, is engaged with the engagement portions formed at the outer surfaces of the printer. The photo stand includes the frame in which the middle portion is open, the engaging protrusions that are provided on the rear surface of the frame and engage the respective engagement portions formed in the tape printer, the transparent panel that

covers the surface of the photograph so that the photograph can be seen therethrough, the rear panel that holds the photograph from the rear side of the frame in cooperation with the transparent panel so that the photograph is sandwiched therebetween, and the photo holding portion that is integrally formed to the base portion of each engagement protrusion and urges the photograph by contacting the rear panel.

[0018]

In the photo stand detachably attachable to the printer as structured above, the engagement portions are formed, at asymmetric positions, in the outer surfaces of the tape printer. The engaging protrusions are formed to the rear side of the frame of the photo stand. The engaging protrusions of the frame are engaged with the respective engagement portions formed in the tape printer. Accordingly, the photo stand is attached to the predetermined surface while oriented in a predetermined direction. Consequently, the photo stand can be prevented from being attached to an improper surface of the tape printer and from being attached to the tape printer in an improper orientation.

[0019]

In the photo stand according to claim 8, which is detachably attachable to the printer, in addition to the structure of the detachably attachable photo stand claimed in claim 7, the rear panel has the cutaway portion that is formed by cutting away from one side so as to be opened with a substantially U-shape.

[0020]

In the photo stand detachably attachable to the printer as structured above, in addition to the effects of the invention claimed in claim 7, the rear panel has the cutaway portion that is formed by cutting away from one side so as to be opened with a substantially U-shape. The rear panel holds the photograph with the transparent panel that covers the surface of the photograph and is provided in the frame. Accordingly, the photograph can be easily removed from the photo stand by inserting a finger into the cutaway portion.

[0021]

In the photo stand according to claim 9, which is detachably attachable to the

printer, in addition to the structure of the detachably attachable photo stand claimed in claim 7 or 8, the frame is provided with the bottom portion that extends in a direction smaller than a right angle by a predetermined angle with respect to the frame.

[0022]

In the photo stand detachably attachable to the printer as structured above, in addition to the effects of the invention claimed in claim 7 or 8, the frame is provided with the bottom portion that extends in a direction smaller than a right angle by a predetermined angle with respect to the frame. The tape printer is inclined at the predetermined angle with respect to a direction perpendicular to the installed plane of the tape printer when the tape printer is attached with the photo stand having the bottom portion. Accordingly, the photograph or the like inserted in the photo stand is held in a posture so that it can be easily seen.

[0023]

[Embodiments of the Invention]

Hereinafter, an embodiment of a printer with a photo stand of the invention will be described with reference to the accompanying drawings. In this embodiment, a printer with a photo stand that is structured such that a photo stand is attached to a tape printer is taken as an example. Referring to FIG. 1, an appearance of a printer with a photo stand 1 will be described. FIG. 1 is a perspective view showing the printer with the photo stand 1, including a photo stand 2 detachably attached to a tape printer 3.

[0024]

As shown in FIG. 1, the printer with a photo stand 1 is designed such that the photo stand 2 is detachably attached to the tape printer 3. The tape printer 3 includes a housing 4 that has five outer surfaces, an upper surface 4a, a lower surface 4b (see FIG. 5), a left side surface 4c (see FIG. 2), a front surface 4d and a rear surface 4e (see FIG. 4). The housing 4 does not have a right side surface, so that the right side of the housing 4 is open (not shown). A cover 5 is rotatably provided to the right side of the housing 4. When the cover 5 is closed with respect to the right side of the housing 4, an open portion (not shown) in the right side of the housing 4 is covered with the cover 5. A motor drive circuit 72 (described later), a tape feeding motor 73 (see FIG. 6) and

the like are built into the housing 4. As described above, the tape printer 3 is structured by the cover 5 and the housing 4 accommodating the circuit, the mechanism and the like. The tape printer 3 can print indicia, such as characters and symbols, on a tape, which is wound in a tape cartridge (not shown). The tape cartridge is detachably attached to the inside of the tape printer 3 by opening the cover 5.

[0025]

The photo stand 2 includes a substantially rectangular frame 7, which has an upper frame portion 7a, a lower frame portion 7b, a left side frame portion 7c and a right side frame portion 7d, and a bottom portion 8, which extends in a Y-axis direction in FIG. 1. The photo stand 2 can be attached to the tape printer 3 so as to cover the left side surface 4c of the tape printer 3. Photographs, small calendars or the like, can be placed in the photo stand 2 attached to the tape printer 3.

[0026]

Next, an appearance of the tape printer 3 will be described with reference to FIGS. 2 to 4. The housing 4 of the tape printer 3 is made of synthetic resin material. As shown in FIGS. 2 to 4, the tape printer 3 includes the housing 4 that has five outer surfaces, namely, the upper surface 4a, the lower surface 4b, the left side surface 4c, the front surface 4d and the rear surface 4e. The housing 4 does not have the right side surface, so that the right side of the housing 4 is open (not shown). The cover 5 is rotatably provided to the right side of the housing 4. When the cover 5 is closed, an open portion (not shown) in the right side of the housing 4 is covered with the cover 5. A projection 5a is formed at a side edge of the cover 5 on the side of the front surface 4d. By pressing the projection 5a rightward in FIG. 2, the cover 5 can be easily opened. Each surface 4a to 4d has a pair of sides that are convexly curved outward, so that the surfaces 4a to 4d have a substantially rectangular shape. Each pair of the upper surface 4a and the lower surface 4b, the front surface 4d and the rear surface 4e, and the left side surface 4c and the cover 5, are symmetrical to each other. The motor drive circuit 72 (described later), the tape feeding motor 73 (see FIG. 6) and the like are built into the housing 4. The tape printer 3 can print indicia, such as characters and symbols, on a tape, which is wound in a tape cartridge (not shown).

[0027]

As shown in FIG. 3, a recessed portion 17, which is recessed toward the inward of the tape printer 3, is formed at a lower portion of the front surface 4d of the housing 4. By inserting a finger into the recessed portion 17, it becomes easier to press rightwardly in FIG. 3 the projection 5a formed to the cover 5. Accordingly, the cover 5 can be easily opened. A tape outlet 10, which is a substantially rectangular through hole, is formed in the recessed portion 17 to discharge the tape (not shown) therefrom. A tape cutter for cutting the tape (not shown) is provided near the tape outlet 10 in the housing 4. The tape drawn from the tape outlet 10 is cut into an appropriate length by the tape cutter. An engagement groove 11 is provided on the left side of the front surface 4d, from the upper end to the lower end, and is substantially parallel with a longitudinal direction of the front surface 4d. The engagement groove 11 is engaged with engaging protrusions 21, 22 formed to the frame 7 of the photo stand 2 (see FIG. 7).

[0028]

As shown in FIG. 4, a chain hook 31, a type B port 32, a receptacle 33 are aligned from top downward on the right half of the back surface 4e of the housing 4. An antitheft chain (not shown) is hooked on the chain hook 31. The type B port 32 is connected with a USB type B connector to make connection between the tape printer 3 and a personal computer by using a USB cable. A power supply plug for supplying power to the tape printer 3 is inserted into the receptacle 33. Engagement grooves 12 and 13 are provided at the right upper and lower portions, respectively. Engaging protrusions 23, 24 (see FIG. 7) formed to the frame 7 of the photo stand 2 are engaged with the engagement grooves 12, 13, respectively. The cover 5 is rotatably held on the side of the rear surface 4e to cover the open portion formed in the right side of the housing 4.

[0029]

As shown in FIG. 5, four protruding feet 61 to 64 are provided on the lower surface 4b of the housing 4. The feet 61 to 64 are equally disposed at four corners of the lower surface 4b, when viewed from the lower surface 4b. The tape printer 3 can stand straight by the feet 61 to 64 with respect to an installed plane 75 of the tape printer

3 (FIG. 10). A protrusion 6 is provided at the middle of a lower surface 5b of the cover 5 provided on the right side of the housing 4. As shown in FIG. 10, when the photo stand 2 is attached to the left side surface 4c of the tape printer 3, the tape printer 3 inclined rightwardly with respect to the installed plane 75 can be prevented from falling toward the right in FIG. 10.

[0030]

As shown in FIG. 2, a power button 41, a tape cut button 42 and an LED 43 are provided to the upper surface 4a of the housing 4. The power button 41 and the LED 43 are provided next to each other at the middle in the longitudinal direction of the upper surface 4a. The tape cut button 42 is provided on the upper surface 4a near the front side 4d. When the power button 41 is pressed while the power of the tape printer 3 is off, the tape printer 3 is turned on. When the power button 41 is pressed for a predetermined period of time or more while the power of the tape printer 3 is on, the tape (not shown) stored in the housing 4 is advanced to take up slack in the tape. When the tape cut button 42 is pressed, the tape that comes out from the tape outlet 10 is substantially perpendicularly cut into an appropriate length with respect to a tape feeding direction by the tape cutter (not shown) provided near the tape outlet 10.

[0031]

Low protrusions 51 to 54, which are a rectangular parallelepiped, are provided on the left side surface 4c of the housing 4. The protrusions 51 and 53 are provided in positions at the same height. The protrusions 52 and 54 are provided in positions at the same height. The protrusions 51 to 54 are equally positioned at four corners of the left side surface 4c, when viewed from the left side surface 4c. A photograph 20 held by the photo stand 2 can be prevented from being vertically displaced by the protrusions 51 to 54 while the photo stand 2 is attached to the tape printer 3.

[0032]

An electric configuration of the tape printer 3 will be described with reference to FIG. 6. FIG. 6 is a schematic block diagram showing the electric configuration of the tape printer 3. As shown in FIG. 6, the tape printer 3 includes a CPU 80 that controls the tape printer 3. The CPU 80 is connected with a RAM 81 that temporarily

stores data and a ROM 82 that stores various kinds of control programs. The CPU 50 is also connected with a print head drive circuit 70 and the motor drive circuit 72 via an input/output bus B1. The print head drive circuit 70 and the motor drive circuit 72 are connected with a print head 71 and the tape feed motor 73, respectively. Further, the CPU 50 is connected with a USB terminal 85 via the input/output bus B1. The tape printer 3 can be connected with a personal computer (not shown) by connecting the USB cable (not shown) to the USB terminal 85.

[0033]

Next, a structure of the photo stand 2 will be described with reference to FIGS. 7 to 9. FIG. 7 is a perspective view of the photo stand 2 when viewed from the front. The photo stand 2 is made of synthetic resin material. As shown in FIG. 7, the photo stand 2 includes the substantially rectangular frame 7 having the upper frame portion 7a, the lower frame portion 7b, the left side frame portion 7c and the right side frame portion 7d. The middle portion of the frame 7 is substantially rectangularly open. The upper frame portion 7a and the lower frame portion 7b are longer than the right and left side frame portions 7c, 7d. A surface 7a1 of the upper frame portion 7a is convexly curved such that a substantially middle portion of the surface 7a1 in the longitudinal direction is uplifted. A surface 7b1 of the lower frame portion 7b has the same shape. A surface 7c1 of the left side frame portion 7c is convexly curved such that a substantially middle portion of the surface 7c1 is uplifted from the right end to the left end in FIG. 7. A surface 7d1 of the right side frame portion 7d is convexly curved such that a substantially middle portion of the surface 7d1 is uplifted from the left end to the right end in FIG. 7. The bottom portion 8 extends from the lower frame portion 7b of the frame 7, toward the rear side of the photo stand 2.

[0034]

As shown in FIG. 10, the bottom portion 8 projects such that a lower surface 8b forms an angle smaller than a right angle with the rear surface (the right side in FIG. 10) of the frame 7, with respect to the frame 7. The lower surface 8b is parallel with the installed plane 75, so that the tape printer 3 to which the photo stand 2 is attached to the left side surface 4c is rightwardly inclined with respect to the installed plane 75. As

shown in FIG. 8, right (the left of FIG. 8) and left (the right of FIG. 8) side end portions of an upper surface 8a of the bottom portion 8 are formed with a recessed portion 8a1. This prevents the feet 61, 62 provided on the lower surface 4b of the housing 4 of the tape printer 3 from interfering with the upper surface 8a of the bottom portion 8 when the photo stand 2 is attached to the tape printer 3.

[0035]

As shown in FIG. 8, the engaging protrusions 23, 24 protrude from the rear of the left side frame portion 7c of the frame 7. More particularly, the engaging protrusions 23 and 24 are disposed at the upper and lower portions of the left side frame portion 7c, respectively. The engaging protrusions 23 and 24 are mirror images of each other. The engaging protrusions 21 and 22 protrude from the rear of the right side frame portion 7d. More specifically, the engaging protrusions 21 and 22 are disposed at the upper and lower portions of the right side frame portion 7d, respectively. The engaging protrusions 21 and 23 are provided at the substantially same height. The engaging protrusion 22 is disposed near a lower end portion of the right side frame portion 7d.

[0036]

The engaging protrusions 21 to 24 have the substantially same shape. As shown in FIG. 11, for example, the engaging protrusion 21 includes a base portion 21a, a pawl portion 21b formed at an edge of the base portion 21a, and a photo holding portion 21c protruding from the base portion 21a. When the photo stand 2 is attached to the tape printer 3, the base portion 21a warps upward in FIG. 11 and the pawl portion 21b engages the engagement groove 11 provided in the front surface 4d of the housing 4 of the tape printer 3. The photograph 20 held by the photo stand 2 is urged from its rear by the photo holding portion 21c via a cardboard 30 provided behind the photograph 20. The engaging protrusions 22 to 24 have the same structure as the engaging protrusions 21. Accordingly, the photograph 20 is held in the photo stand 2 while urged from its rear by photo holding portions (not shown) provided to the engaging protrusions 22 to 24, in addition to the photo holding portion 21c. When the photo stand 2 is attached to the tape printer 3, base portions (not shown) provided to the

engaging protrusions 22 to 24 also outwardly warp and pawl portions (not shown) formed to the respective base portions engage the respective engagement grooves 11 to 13 provided in the front and rear surfaces 4d, 4e of the housing 4 of the tape printer 3.

[0037]

As shown in FIG. 8, the frame 7 of the photo stand 2 is provided with a substantially rectangular transparent panel 16. As shown in FIG. 11, a portion of the transparent panel 16 is inserted between the right side frame portion 7d of the frame 7 and the engaging protrusion 21 provided at the rear of the right side frame portion 7d. Other portions of the transparent panel 16 are also inserted between the frame portions 7c, 7d and the engaging protrusions 22, 23, 24. The photo stand 2 holds the photograph 20 from its front while sandwiching the photograph 20 by the cardboard 30 having the substantially same size as the transparent panel 16. The photograph 20 can be seen through the transparent panel 16. The cardboard 30 has a substantially rectangular shape. A U-shaped cutaway portion 30a is formed in the cardboard 30 by which the cardboard 30 is partially cut away from an upper edge at a substantially middle portion in the longitudinal direction. As shown in FIGS. 9 to 11, the photograph 20 is inserted between the right frame portion 7d and the engaging protrusion 21 as well as between the right frame portion 7d and the engaging protrusion 22 and between the left frame portion 7d and the engaging protrusions 23, 24. The cardboard 30 is also inserted therebetween and behind the photograph 20 (the right of the photograph 20 in FIG. 11). By doing so, the photograph 20 can be held in the photo stand 2 while seen from a picture side through the transparent panel 16.

[0038]

In the bottom portion 8, the lower surface 8b projects toward the rear of the frame 7 with forming an angle smaller than a right angle. Therefore, when the photo stand 2 is attached to the left side surface 4c of the tape printer 3, the tape printer 3 is inclined rightward in FIG. 10 with respect to the installed plane 75. In this state, the bottom portion 8 of the photo stand 2 becomes a bottom portion of the printer with the photo stand 1 constructed by the photo stand 2 and the tape printer 3. For example, when the photo stand 2 is used separately from the tape printer 3 to display the

photograph 20 or the like, the frame 7 is inclined backward with respect to an installed plane on which the photo stand 2 is placed, that is, the bottom portion 8. Accordingly, the photograph 20 inserted in the photo stand 2 is oriented toward a direction that the picture side of the photograph 20 can be easily seen. As shown in FIG. 9, the cardboard 30, which is provided behind of the photograph 20, is formed with the cutaway portion 30a at its upper portion. Therefore, the photograph 20 can be upwardly pulled out of the photo stand 2 via the cutaway portion 30a using a finger, without removing the transparent panel 16 and the cardboard 30.

[0039]

Next, a structure of the printer with the photo stand 1 structured by which the photo stand 2 is attached to the tape printer 3, will be described with reference to FIGS. 1, and 10 to 12. As shown in FIG. 1, the printer with the photo stand 1 is structured such that the photo stand 2 is attached to the left side surface 4c of the housing 4 of the tape printer 3. The photo stand 2 is attached to the tape printer 3 as described below. First, the engaging protrusions 23, 24 (see FIG. 7) provided to the left side frame portion 7c of the frame 7 of the photo stand 2 are engaged with the engagement grooves 12, 13 (see FIG. 4), respectively, provided to the rear surface 4e of the tape printer 3. Then, the engaging protrusions 21, 22 (see FIG. 7) provided to the right side frame portion 7d of the frame 7 of the photo stand 2 are engaged with the engagement groove 11 (see FIG. 3) provided to the front surface 4d of the tape printer 3. Thus, the left side surface 4c of the housing 4 of the tape printer 3 is covered with the photo stand 2. When the photo stand 2 is attached to the tape printer 3, the engaging protrusions 23, 24 provided to the left side frame portion 7c and the engaging protrusions 21, 22 provided to the right side frame portion 7d warp outward (toward the side of the outer surface of the printer 3). The engaging protrusions 23 and 24 are engaged with the engagement grooves 12 and 13, respectively, and the engaging protrusion 21 and 22 are engaged with the engagement groove 11. Thus, the photo stand 2 is tightly fixed to the tape printer 3 so that the photo stand 2 does not come off the tape printer 3 after the attachment. The engaging protrusions 21 to 24 are engaged with the predetermined respective engagement grooves 11 to 13. However, the order in which the engaging

protrusions 21 to 24 are engaged with the respective engagement grooves 11 to 13 is not limited to the order described above. Any engaging protrusions 21 to 24 can be engaged first with the respective engagement grooves 11 to 13.

[0040]

As shown in FIG. 10, in the state described above, the bottom portion 8 of the photo stand 2 and the feet 63, 64 (not shown) provided on the lower surface 4b of the tape printer 3 contact the installed plane 75, and the tape printer 3 is inclined rightward with respect to the installed plane 75. Therefore, the photograph 20 held by the photo stand 2 (see FIG. 90) forms an acute angle with the installed plane 75 and the picture side (the left side in FIG. 10) of the photograph 20 is oriented toward the outside. Accordingly, the photograph 20 is held while oriented toward a direction that the picture side of the photograph 20 can be easily seen. The protrusion 6 provided to the lower surface 5b of the cover 5 prevents the tape printer 3 from falling, by contacting the installed plane 75, even when a force is applied to the tape printer 3 rightward.

[0041]

As shown in FIG. 12, the photograph 20 is prevented from being vertically displaced by the protrusions 51, 52 provided to the left side surface 4c of the tape printer 3. The protrusions 51, 52 regulates the vertical movement of the photograph 20. The other protrusions 53, 54 also provided to the left side surface 4c function as the same as the protrusions 51, 52. Consequently, the photograph 20 is prevented from being vertically displaced by the protrusions 51 to 54.

[0042]

As described above, according to the printer with the photo stand 1 of the embodiment, the tape printer 3 is attached with the photo stand 2 to form a single unit. Accordingly, space can be saved as compared with a case where the tape printer 3 and the photo stand 2 are separately located on a desk, for example. In the photo stand 2, the bottom portion 8 is formed such that the lower surface 8b projects toward the rear of the frame 7 with forming an angle smaller than a right angle. Accordingly, the photograph 20 is held in an inclined posture in the photo stand 2, so that the photograph 20 is oriented toward a direction that the photograph 20 can be easily seen. The

protrusion 6 provided to the lower surface 5b of the cover 5 prevents the tape printer 3 from falling toward an inclined direction even when the tape printer 3 is inclined with respect to the installed plane 75. The protrusions 51 to 54 provided on the left side surface 4c of the tape printer 3 prevent the photograph 20 from being vertically displaced.

[0043]

The photo stand 2 is removed from the tape printer 3 as described below. The engaging protrusions 23, 24 engaged with the engagement grooves 12, 13, respectively, provided to the rear surface 4e of the tape printer 3, are disengaged therefrom. Then, the engaging protrusions 21, 22 engaged with the engagement groove 11 provided to the front surface 4d of the tape printer 3, are released therefrom. Thus, the photo stand 2 is removed from the tape printer 3. At that time, the engaging protrusions 21 to 24 warp outward and are disengaged from the respective engagement grooves 11 to 13. Any engaging protrusions 21 to 24 can be released first from the respective engagement grooves 11 to 13.

[0044]

Although the invention has been described in detail with reference to a specific embodiment thereof, it would be apparent to those skilled in the art that various changes and modifications may be made therein without departing from the spirit of the invention. In the embodiment, the photograph 20 is supported from its rear by the cardboard 30 and is prevented from being vertically displaced by the protrusions 51 to 54 provided on the left side surface 4c of the housing 4 of the tape printer 3. However, in order to reduce a parts count, for example, the photograph 20 may be held from its rear by the only protrusions 51 to 54. Engagement mechanisms for attaching the photo stand 2 to the tape printer 3 can have symmetric shape and can be provided at symmetric positions, if the attaching orientation of the photo stand 2 is unnecessary to be limited. In the embodiment, the tape printer 3 is used as an example. However, an object to be attached with the photo stand is not limited to the tape printer, but various kinds of printers can be attached with the photo stand.

[0045]

[Effects of the Invention]

As described above, in a printer with a photo stand according to claim 1, a photo stand is detachably attached to a printer. When both the printer and the photo stand are to be placed on a desk, it is unnecessary to place the printer and the photo stand separately on the desk. Accordingly, the desk space can be saved and effectively used.

[0046]

In the printer with the photo stand according to claim 2, the engagement portions are formed, at asymmetric positions, in the outer surfaces of the tape printer. The engaging protrusions formed to the rear side of the frame of the photo stand are engaged with the respective engagement portions. Accordingly, the photo stand is attached to the predetermined surface while oriented in a predetermined direction. Consequently, in addition to the effects obtained by the invention claimed in claim 1, the photo stand can be prevented from being attached to an improper surface of the tape printer and from being attached to the tape printer in an improper orientation.

[0047]

In the printer with the photo stand according to claim 3, the rear panel is formed with the cutaway portion from the one side. The rear panel holds the photograph in cooperation with the transparent panel that covers the surface of the photograph so that the photograph can be seen through the transparent panel. Accordingly, in addition to the effects obtained by the invention claimed in claim 2, the photograph can be easily removed from the photo stand by inserting a finger into the cutaway portion.

[0048]

In the printer with the photo stand according to claim 4, the frame is provided with the bottom portion that extends in a direction smaller than a right angle by a predetermined angle with respect to the frame. The tape printer is inclined at the predetermined angle with respect to a direction perpendicular to the installed plane of the tape printer when the tape printer is attached with the photo stand having the bottom portion. Accordingly, in addition to the effects obtained by the invention claimed in

any of claims 1 to 3, the photograph, or the like, inserted in the photo stand is held in a posture that it can be easily seen.

[0049]

In the printer with the photo stand according to claim 5, the surface to which the photo stand is to be attached is provided with the protrusions at its upper and lower positions. With this structure, the photograph held in the photo stand can be prevented from being vertically displaced, in addition to the effects obtained by the invention claimed in any of claims 1 to 4.

[0050]

In the printer with the photo stand according to claim 6, the bottom portion of the printer is provided with the protrusion that prevents the tape printer inclined at the predetermined angle from falling in a direction of the installed plane. Therefore, in addition to the effects obtained by the invention claimed in claim 4, the tape printer inclined at the predetermined angle can be prevented from falling.

[0051]

In the printer with the photo stand according to claim 7, the engagement portions are formed, at asymmetric positions, in the outer surfaces of the tape printer. The engaging protrusions formed to the rear side of the frame of the photo stand are engaged with the respective engagement portions. Accordingly, the photo stand is attached to the predetermined surface while oriented in a predetermined direction. Consequently, the photo stand can be prevented from being attached to an improper surface of the tape printer and from being attached to the tape printer in an improper orientation.

[0052]

In the printer with the photo stand according to claim 8, the rear panel is formed with the cutaway portion from the one side. The rear panel holds the photograph in cooperation with the transparent panel that covers the surface of the photograph so that the photograph can be seen through the transparent panel. Accordingly, the photograph can be easily removed from the photo stand by inserting a finger into the cutaway portion.

[0053]

In the printer with the photo stand according to claim 9, the frame is provided with the bottom portion that extends in a direction smaller than a right angle by a predetermined angle with respect to the frame. The tape printer is inclined at the predetermined angle with respect to a direction perpendicular to the installed plane of the tape printer when the tape printer is attached with the photo stand having the bottom portion. Accordingly, the photograph, or the like, inserted in the photo stand is held in a posture that it can be easily seen.

[Brief Description of Drawings]

[Figure 1]

FIG. 1 is a perspective view showing a printer with a photo stand 1.

[Figure 2]

FIG. 2 is a perspective view showing a tape printer 3.

[Figure 3]

FIG. 3 is a front view of the tape printer 3.

[Figure 4]

FIG. 4 is a rear view of the tape printer 3.

[Figure 5]

FIG. 5 is a bottom view of the tape printer 3.

[Figure 6]

FIG. 6 is a schematic block diagram showing an electric configuration of the tape printer 3.

[Figure 7]

FIG. 7 is a perspective view showing a photo stand 2.

[Figure 8]

FIG. 8 is a perspective view showing the photo stand 2.

[Figure 9]

FIG. 9 is a perspective view showing the photo stand 2 that holds a photograph

20.

[Figure 10]

FIG. 10 is a front view showing the printer with the photo stand 1.

[Figure 11]

FIG. 11 is a sectional view taken along the line B-B of FIG. 10, looking in the direction of the appended arrows.

[Figure 12]

FIG. 12 is a sectional view taken along the line A-A of the FIG. 1, looking in the direction of the appended arrows.

[Description of Symbols]

- 1 printer with a photo stand
- 2 photo stand
- 3 tape printer
- 4 housing
- 5 cover
- 6 protrusion
- 7 frame
- 8 bottom portion
- 11 engagement groove
- 12 engagement groove
- 13 engagement groove
- 16 transparent panel
- 20 photograph
- 21, 22, 23, 24 engaging protrusions
- 21a base portion
- 21b pawl portion
- 21c photo holding portion
- 30 cardboard
- 30a cutaway portion

[Title of the Document] Abstract

[Abstract]

[Problem to be Solved] To provide a printer with a photo stand wherein a photograph or the like can be placed therein and the printer can save its installation space, and a photo stand detachably attachable to the printer.

[Solution] In a printer with a photo stand 1, a photo stand 2 is attached to a tape printer 3 with covering a left side surface of its housing 4, and the tape printer 3 is inclined with respect to an installation plane 75. Accordingly, a picture side of a photograph held in the photo stand 2 is oriented toward a direction that the picture side of the photograph 20 can be easily seen and a protrusion 6 provided to a lower surface of a cover 5 of the tape printer 3 prevents the tape printer 3 from falling toward an inclined direction. Further, because the tape printer 3 and the photo stand 2 can become a single unit, the installation space of the printer with the photo stand 1 can be saved.

[Selected Drawing] Figure 10

FIG.1

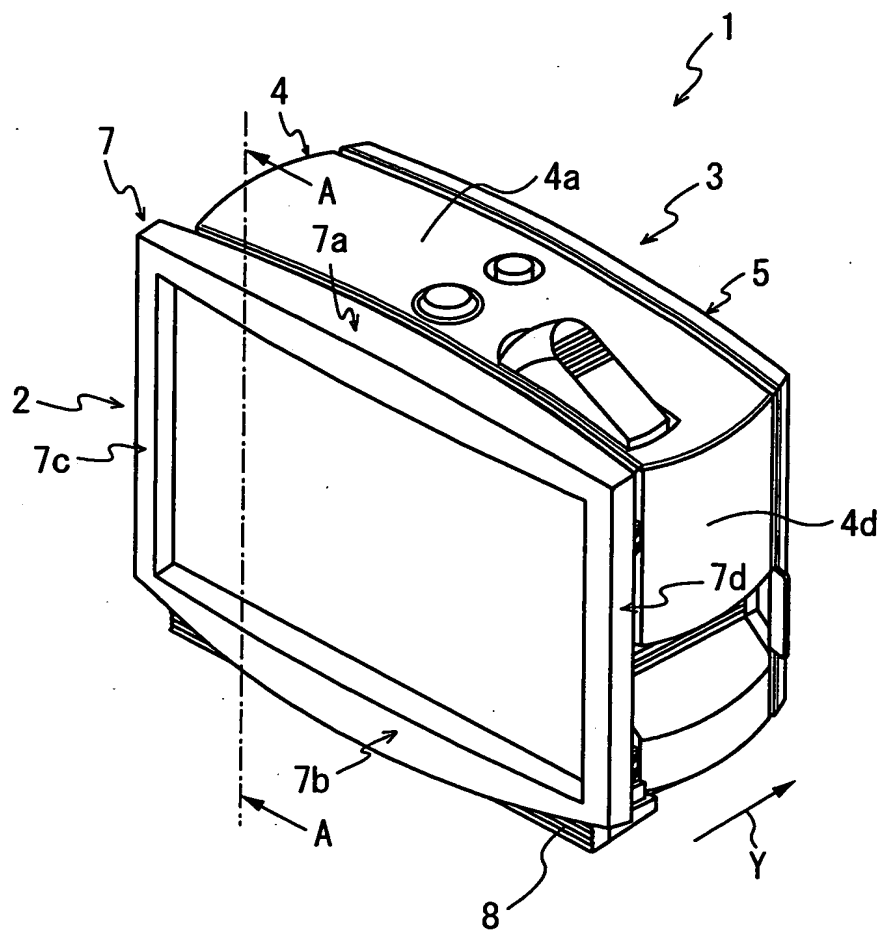


FIG.2

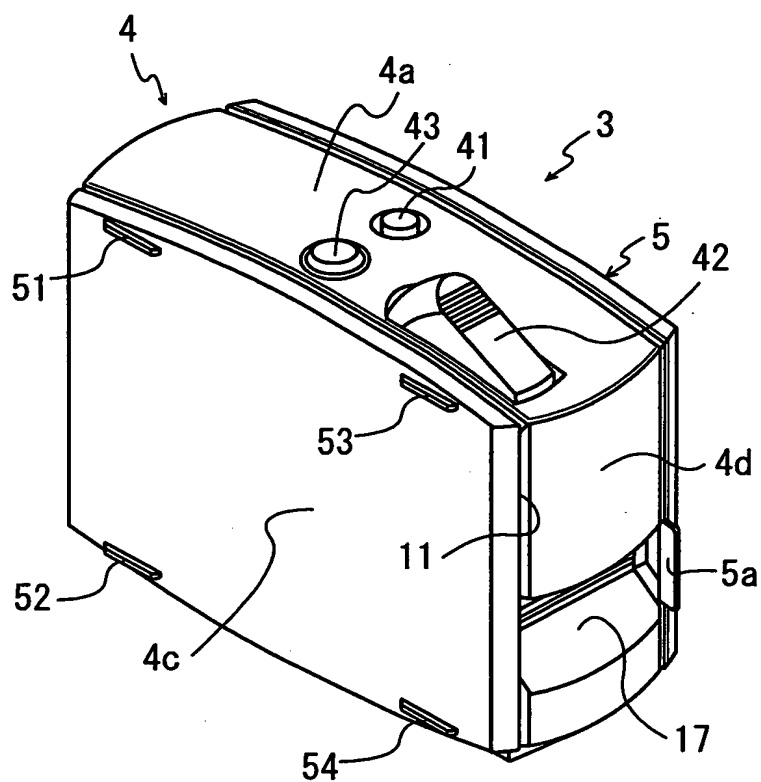
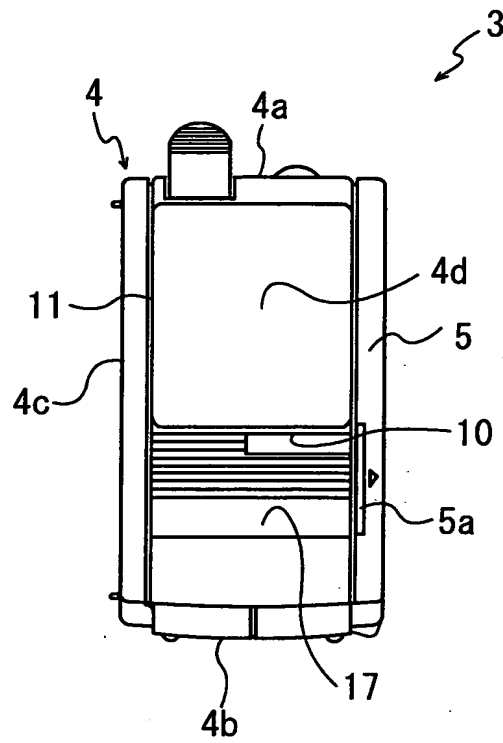


FIG.3



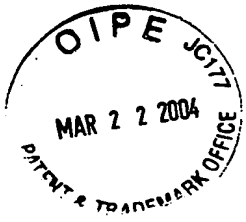


FIG.4

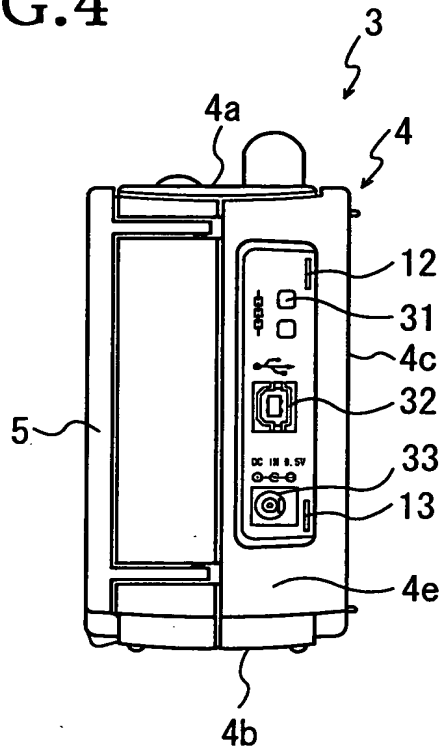


FIG.5

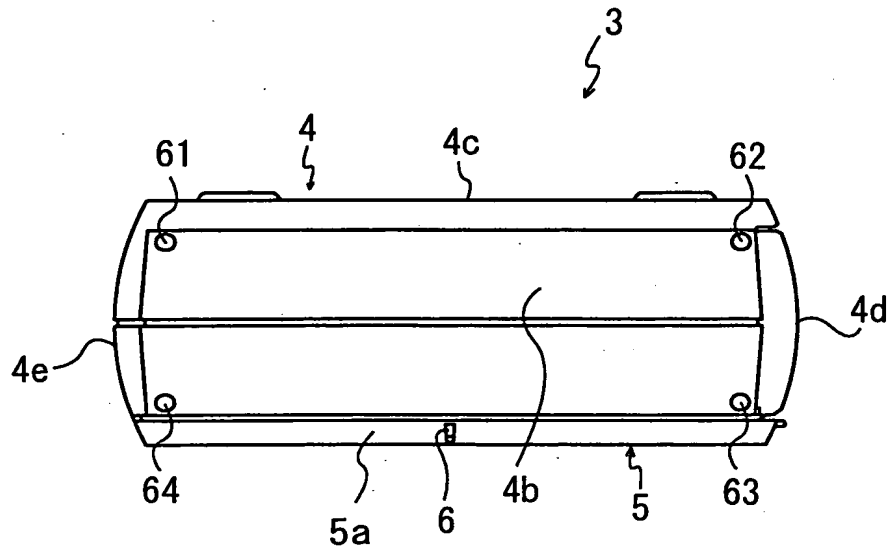


FIG.6

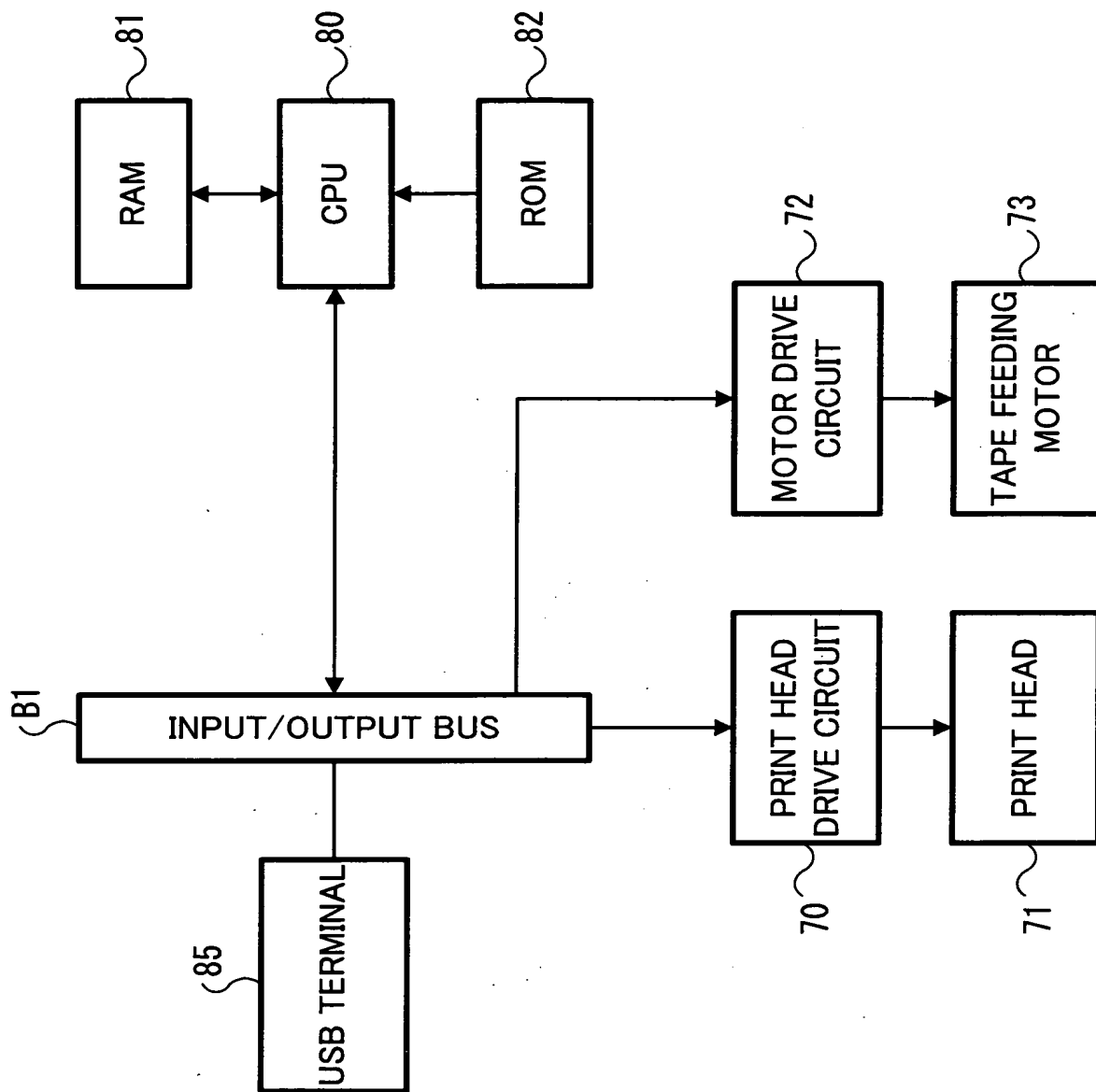


FIG.7

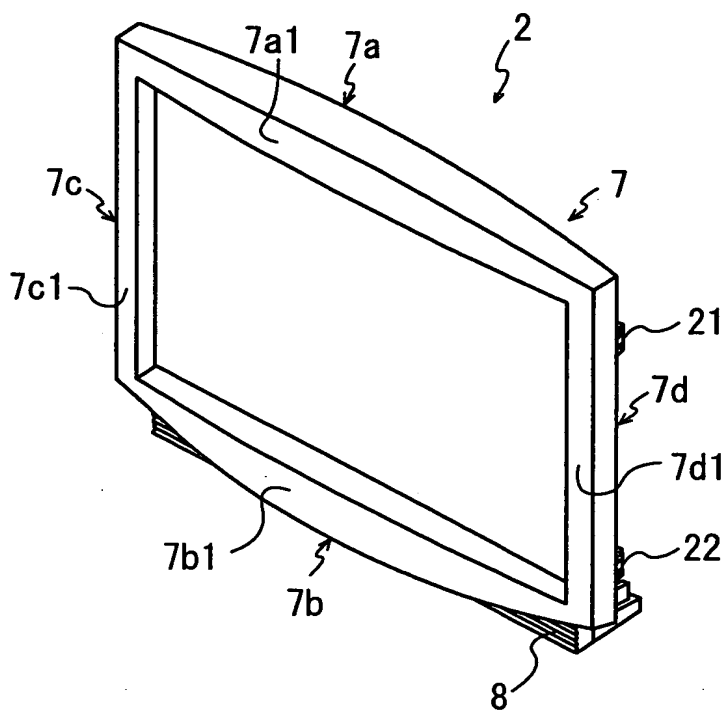


FIG.8

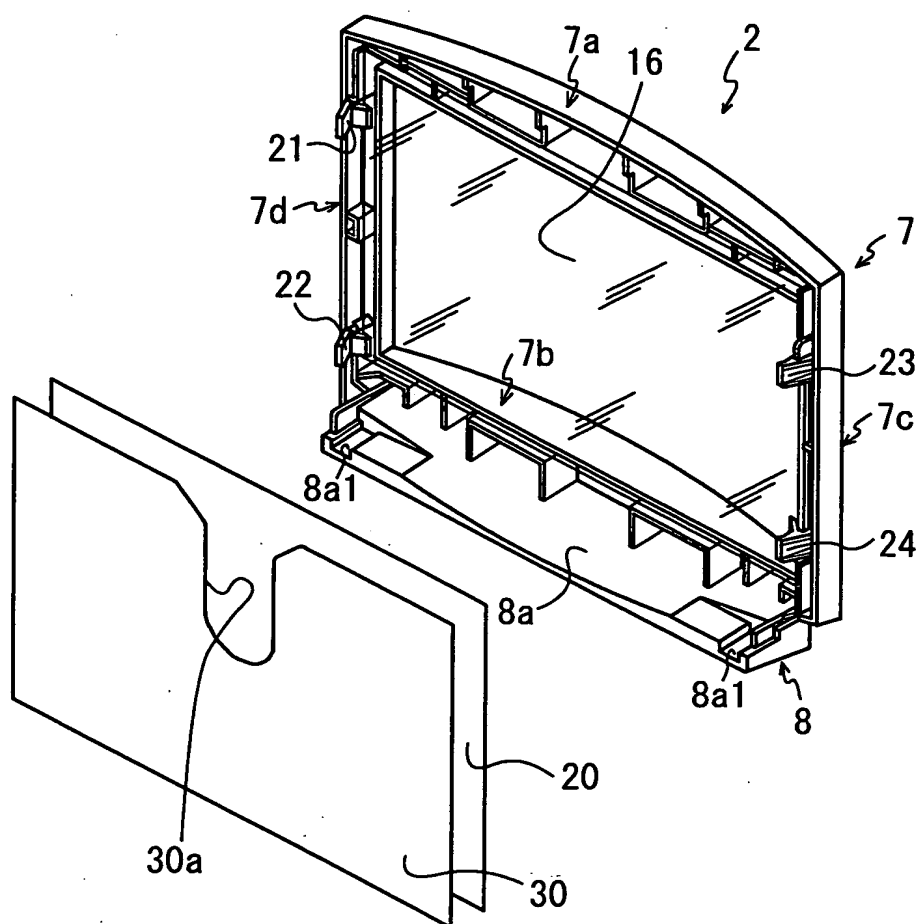


FIG.9

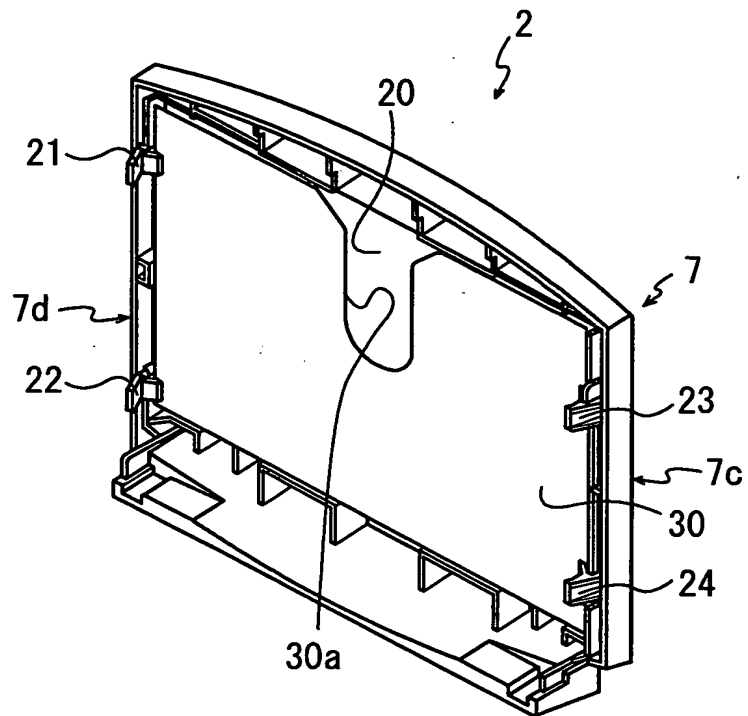


FIG.10

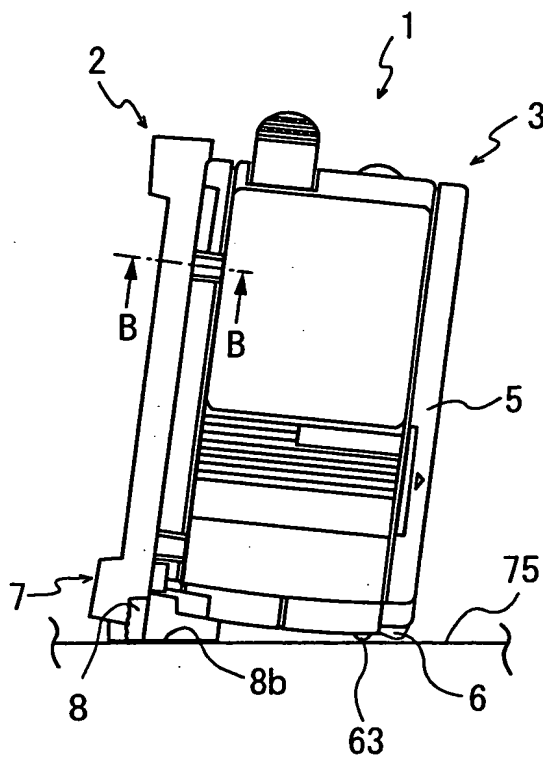


FIG.11

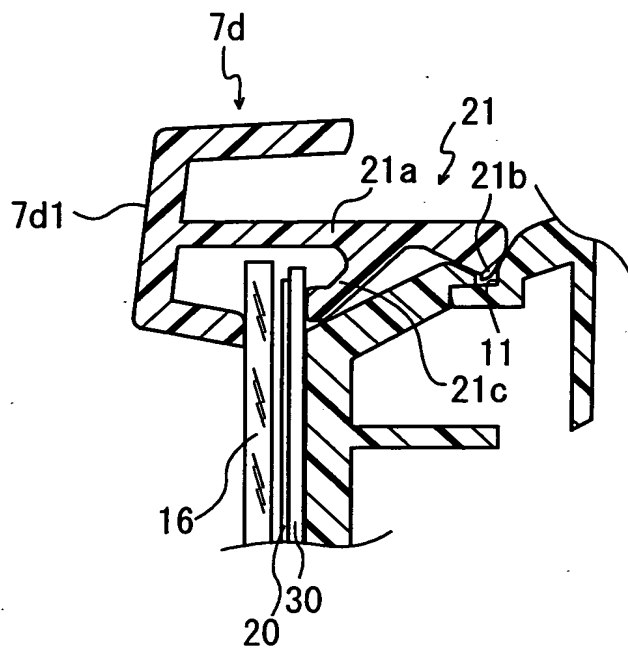


FIG.12

